

Development Strategy the Balance of Environment against Green Factory of the Infectious Garbage Displacement Nakhon Sawan Province

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Abstract

The objectives were 1) to create strategy for developing the balance of environment against green factory of the infectious garbage displacement, Nakhon Sawan Province and 2) to experiment strategies for developing the balance of environment against green factory of the infectious garbage displacement, Nakhon Sawan Province. Qualitative research and quantitative research approaches were used. Data collection and analysis were done with In-Depth interview for qualitative research. The experiment group was 50 community peoples from the twelfth Village, Moo Ban Nhong Khaeng and the control group was 25 community peoples from the first Village, Moo Ban Thup Chumpol in Nakhon Sawan Province. The experimental and control groups were selected with Purposive Sampling Technique. The results of the development strategy by replacing the framework for the strategic development of the theory of Corporate Social Responsibility (CSR) that consists of three units: 1) analysis of the problem and the need to assess the problems and needs between plant and communities and 2) to evaluate the ability of the plant and meet the needs of the community, and 3) to evaluate the satisfaction of the neighboring communities. The experimental results of the 50 community peoples showed that their satisfaction evaluation had posttest mean score with 4.83, was higher than control group mean score with 4.61 at statistically significant at level 0.5. Moreover their satisfaction evaluation had posttest mean score with 4.83, was higher than pretest mean score with 3.44 at statistically significant at level 0.001.

Key Words: Development Strategy / Balance of Environment / Green Factory / Infectious Garbage Displacement / Nakhon Sawan Province

1. Introduction

The global natural resources and environment crisis, these cause the industrial factory over the world has realized the importance of environmental quality, therefore the concept of green factory was occurred during 1990 decade. With the aim of making numerous industrial plants to formulate strategy for disposing of environmental problem, this was activated by various environmental problem such as greenhouse gas effect, ozone depletion, the melting of ice at the world pole, and other disasters around the world. Such events happened to every regions of the world (Thiengkamol, 2011e).

Green factory is plant that holds the concept of decreasing risk of environmental problems and it pays attention to nature or environment with equal to the importance of production or product for gaining benefit. Thailand has the plants with different size of large, middle and small over 100,000 plants. In this number, there are plants using machine beginning from 50 horsepower with approximately 60,000 plants. About 10,000 plants have produced wastewater, air pollution and waste but the number of green factory are unknown because to be a green plant, it needs numerous indicators to evaluate. However, at present, we pay attention to environment more and more, but if look back to past we just are awoken of environmental problems and environmental conservation. Therefore, the United Nations held meeting for international conference to consider the regulations together among different countries at Rio de Janeiro to formulate

Agenda 21 for sustainable development principles. This aimed to have economic development, social development and environmental protection in the same time. In Agenda 21, there is emphasizing on implementation of people at local level. These regulations were accepted by 178 countries in 1992 (Punjasuwan, 2005 and Thiengkamol, 2011e).

Chote Korn Phibun Ltd. (infectious garbage plant) locates Nong Krot District, Nakhon Sawan Province has opened to operate for infectious garbage disposal of hospital and general community waste at 22 February 2007 and has the head office at 196/157 Moo 1, nakhonsawantok Sub-district, Muang District, Nakhon Sawan Province (locates between Moo Ban Thup Chumpol and the twelfth Village, Moo Ban Nhong Khaeng), Nong Krot District, Nakhon Sawan Province. In order to response toward industrial business in Thailand with more extension and to make the administration of Chote Korn Phibun Ltd., plant is accepted by universal level with incessant efficiency and increasing its competency to be continuous development. It has introduced the system of quality administration of ISO 9001:2008 and environmental management system of ISO14001:2004. These international standards are emphasized on continuous improvement of working efficiency and environmental quality protection and these are adapted to use inside plant and nearby community. Nevertheless, it explained the situation of green plant development as infectious garbage disposal before this study was done. However these managements did not serve the needs of nearby community people (Arunsrirakot, 2005 and Wattanasaroach, et al., 2012).

The majority of current situation, society pays attention to social responsibility for economic, social and environmental development similarly. It is not aim only environmental protection and surveillance but it needs to pay attention to other aspects consideration together. Therefore, the balance modification of environment and green plant of infectious garbage disposal are used the concept of Theory of Corporate Social Responsibility (CSR) to adjust environmental balance and green plant of infectious garbage disposal (Williamson, et al., 2006; Russo and Tencati, 2009; O'Riordan, and Fairbrass, 2008 and Perrini, Francesco, et al., 2007). Therefore, to operate plant, it should regard to nearby communities to satisfy the implementation of this green plant of infectious garbage disposal by considering on life quality of people of nearby communities. Even though, this plant had environmental protection and complied in accordance with law such as measurement of air pollution at the terminal of chimney, and measurement of wastewater, odor, smoke, light, color and sound but it needs to consider both economic growth and social development, therefore it not only adjusts the environmental balance but also needs create the nearby community satisfaction at a certain level.

Creation of development strategy the balance of environment against green factory of the infectious garbage displacement to support the community society with happiness, the practical method of problem solving environmental impact to nearby communities of plant should be introduced. This development strategy was introduced the international standard organization, ISO 9001 (quality management) and ISO 14001 (environmental management) (Arunsrirakot, 2005). Moreover, the plant adjusts the production process in accordance to Theory of green industry with 5 levels by following the criteria and condition of Ministry of Industry. The first level is "Green Commitment" and it implies that the organization has intention to run business with environment friendly implementation. The second level is "Green Activity" that it implies that organization has operated until it achieves its attention to run business with environment friendly implementation. The third level is "Green System" that it implies that organization has systemically operated environmental work. The fourth level is "Green Culture" that it implies that organization has systemically operated and has process of building organization culture and it practices to be effectiveness and the fifth "Green Network" that it implies that organization has accomplished of building organization culture and building network. Additionally, it is able to inspire for other work units to consider to environment and community in order to meet ISO 26000 or social responsibility with inside process adaptation. By regarding to adjustment of environmental balance of green factory of infectious garbage disposal of Nakhon Sawan Province, it uses the framework of Theory of CSR (ISO 26000) since it not only pays attention to economy, environment and implement under the law regulation but also regards to different social problem to response the real needs of nearby communities to have good life quality (Suebchuewong, 2002; Thiengkamol, 2005a; Russo and Tencati, 2009; and Williamson, et al., 2006).

The researcher has searched the problems and demand between green factory of infectious garbage disposal by using incinerator without pollution and nearby community within 5 kilometer radius. The meeting was held at the twelfth Village, Moo Ban Nhong Khaeng by inviting representatives of community peoples, administrator and factorial personnel and academic persons in community. The implementation of meeting was used the framework of Theory of CSR (O'Riordan, and Fairbrass, 2008 and Perrini, Francesco, et al., 2007) about the environmental, social and economic impacts. This implantation was used to response the needs of nearby community peoples in order to create a certain level of satisfaction. The results of meeting was concluded different problems for instances as the following. 1) Plants and community had no activity together, 2) some activity is implemented by community but the plant only participating, 3) there is no activity that plant implemented for community and be able to response the real needs of community and society, and 4) communities unsatisfied toward plant operation.

These issues express to the relationship between plant and community that lacked of connection and collaboration. Moreover, plant has no project or policy to seriously take part with responsibility for locality and regards to the environmental, social and economic impacts with evaluation of problems and community needs. The nearby communities wish green factory of the infectious garbage displacement to participate in problem solving, evaluating problem and perceiving real needs of nearby community and society for urgent problem solving.

Therefore, the researcher aimed to study for development strategy the balance of environment against green factory of the infectious garbage displacement, Nakhon Sawan Province for serving the needs of nearby community and the development strategy can be applied for other plants in other provinces in order to adjust the balance of environment against green factory of the infectious garbage displacement and to create satisfaction for nearby communities with a certain level.

2. Objective

The research objectives were as followings:

- 1) To create strategy for developing the balance of environment against green factory of the infectious garbage displacement, Nakhon Sawan Province.
- 2) To experiment strategies for developing the balance of environment against green factory of the infectious garbage displacement, Nakhon Sawan Province.

3. Methodology

The research design was implemented in steps by step as followings:

1) The qualitative research was used to study for development strategy the balance of environment against green factory of the infectious garbage displacement, Nakhon Sawan Province. In-Depth Interview was used for data collection from 20 representatives of community peoples, administrator and factorial personnel and academic persons in community nearby plant about 5 kilometers radius (Thiengkamol, 2011a). There were 4 unit work systems of strategy development including;

Work unit system 1: Analysis of problems and needs between plant and nearby community to response the real need of communities and society (Analysis of environmental problems, social problems and economic problems).

Work unit system 2: Evaluation and response the needs of nearby communities according to concept of CSR.

Work unit system 3: Development mechanism in cooperation understand for nearby community according to concept of CSR.

Work unit system 4: Satisfaction evaluation toward creation the balance of environment of nearby community.

2) The quantitative research was used to experiment for development strategy the balance of environment against green factory of the infectious garbage displacement, Nakhon Sawan Province. The experiment group was 50 community peoples from the twelfth Village, Moo Ban Nhong Khaeng and the control group was 25 community peoples from the first Village, Moo Ban Thup Chumpol in Nakhon Sawan Province. The experimental and control groups were selected with Purposive Sampling Technique.

4. Results

4.1 In-Depth Interview Results

The selected 20 representatives of community peoples, administrator and factorial personnel and academic persons in community nearby plant about 5 kilometers radius were interviewed, and they gave recommendations as the followings.

1) Plants and community had no activity together, 2) some activity is implemented by community but the plant only participating, 3) there is no activity that plant implemented for community and be able to response the real needs of nearby community and society, and 4) communities unsatisfied toward plant operation.

4.2 Experimental Results of Satisfaction Evaluation of Experimental Group between Pretest and Posttest

The results of satisfaction evaluation of the experimental group of 50 community peoples, after training was implemented, the mean score of the whole aspect of development strategy of CSR of plant was higher than before training with

statically significant at 0.001 level as showed in table 1.

Table 1. Satisfaction Evaluation of Experimental Group between Pretest and Posttest

Satisfaction Evaluation of Experimental Group	Sources of data	\bar{X}	S.D.	F	Sig.
1. Good supervise the activities	Pretest	3.86	±0.35	317.404	.000***
	Posttest	0.94	±0.25		
2. Justice business operation	Pretest	3.72	±0.45	116.480	.000***
	Posttest	4.81	±0.55		
3. Look after the environment	Pretest	3.91	±0.23	337.419	.000***
	Posttest	4.88	±0.29		
4. Take responsibility toward service value	Pretest	2.59	±0.58	570.970	.000***
	Posttest	4.66	±0.19		
5. Participate in community development	Pretest	3.80	±0.45	166.513	.000***
	Posttest	4.86	±0.35		
6. Create the green culture in organization	Pretest	2.76	±0.52	524.322	.000***
	Posttest	4.86	±0.39		
Whole Aspects	Pretest	3.44	±0.42	341.008	.000***
	Posttest	4.83	±0.33		

***Statistically significant level of 0.001

From table 1, the training course of development strategy the balance of environment against green factory of the infectious garbage displacement, Nakhon Sawan Province, the experimental group changed their satisfaction evaluation in 6 aspects and the first order of changing was look after the environment aspect with mean score 4.88, the second were participation in community development and creation of green culture in organization with mean scores of 4.86 equally. Comparison between mean scores in 6 aspects of satisfaction evaluation of experimental group, they were found that the posttest of 6 aspects were higher than pretest with statically significant at 0.001, 0.001, 0.001, 0.001, 0.001 and 0.001 levels.

4.3 Experimental Results of Satisfaction Evaluation of Experimental Group and Control Group

The results of satisfaction evaluation of the experimental group of 50 community peoples and control group of 25 community peoples, after treatment, the whole mean score of satisfaction evaluation of strategic development of CSR of plant of experimental group was higher than the control group with statistically significant at level of 0.05 as showed in table 2.

Table 2 Satisfaction Evaluation of Experimental Group and Control Group

Satisfaction Evaluation of Community Peoples	Sources of data	\bar{X}	S.D.	F	Sig.
1. Good supervise the activities	Experimental Group	4.94	±0.25	1.912	.171
	Control Group	4.82	±0.46		
2. Justice business operation	Experimental Group	4.81	±0.55	.291	.591
	Control Group	4.73	±0.57		
3. Look after the environment aspect	Experimental Group	4.89	±0.29	1.136	.290
	Control Group	4.80	±0.43		
4. Take responsibility toward service value	Experimental Group	4.66	±0.19	103.957	.000***
	Control Group	4.22	±0.14		
5. Participate in community development	Experimental Group	4.86	±0.35	26.402	.000***
	Control Group	4.34	±0.51		
6. Create the green culture in organization	Experimental Group	4.86	±0.39	1.264	.265
	Control Group	4.74	±0.59		
Whole Aspect	Experimental Group	4.83	±0.33	6.259	.015*
	Control Group	4.61	±0.44		

*Statistically significant level of 0.05, ***statistically significant level of 0.001

From table 2, satisfaction evaluation of experimental group and control group, it indicated that there were taking responsibility toward service value aspect and participating in community development were highly statistical significance at 0.001, and 0.001 levels and the whole aspect, it indicated that the whole aspect was statistical significance at 0.05 level.

5. Discussion

Research results revealed that from In-depth Interview with selected 20 peoples in community nearby plant about 5 kilometers radius were interviewed, they gave recommendations including; 1) plants and community had no activity together, 2) some activity is implemented by community but the plant only participating, 3) there is no activity that plant implemented for community and be able to response the real needs of nearby community and society, and 4) communities unsatisfied toward plant operation. Moreover, the most essential of strategy for developing the balance of environment against green factory of the infectious garbage displacement, Nakhon Sawan Province, were looking after the environment, organizing activities, participating in community development and creating the green culture in organization. Therefore, after the factory administrators perceived and understand the needs of community people. They implemented in 6 aspects of the followings. There are, 1. Good supervise the activities, 2. Justice business operation aspect, 3. Look after the environment aspect, 4. Take responsibility toward service value, 5. Participate in community development and 6. Create the green culture in organization. These implementations are able to serve the needs of community people and society, therefore this leads to the good understanding between plant and nearby communities. It also provides good environmental quality, social justice and developing the economic with peace and happiness of both plant and community.

References

- Arunsrirakot, S. (2005). Development of Document of Environmental Management ISO14001: 2004 for Industrial Factory. Faculty of Environment and Resource Studies. Mahidol University, Nakhon Prathom Province.
- O'Riordan, Linda and Fairbrass, Jenny. (2008). Corporate Social Responsibility (CSR): Models and Theories in Stakeholder Dialogue. *Journal of Business Ethics* (2008) 83: 745-758.
- Perrini, Francesco and Others. (2007). CSR Strategies of SMEs and Large Firms. Evidence from Italy. *Journal of Business Ethics* (2007) 74:285–300.
- Punjasawan, J. (2005). Management of Natural Resources and Environment. Bangkok: Odean Store.
- Russo, Angeloantonio and Tencati, Antonio. (2009). Formal vs. Informal CSR Strategies: Evidence from Italian Micro, Small, Medium-sized, and Large Firms. *Journal of Business Ethics* (2009) 85:339–353.
- Suebchuewong, P. (2002). Problem of Implementation to Standard System of ISO 14001 of Certified School in the Bangkok Area. Bangkok: Phranakhon Rajabhat University.
- Thiengkamol, N., (2005a). Strengthening Community Capability through The Learning *Network Model for Energy Conservation*. *Journal of Population and Social Studies*, Volume14, Number1, July 2005.
- Thiengkamol, N. (2011a). *Holistically Integrative Research*. (2nd Edition). Bangkok: Chulalongkorn Press.
- Thiengkamol, N., (2011e). *Environment and Development Book 1*. Published 4th Edition. Bangkok: Chulalongkorn University Press.
- Wattanasaroch, K., Thiengkamol, N., Navanugraha, C., & Thiengkamol, C. (2012). Development of Green Dormitory Standard for Mahasarakham University. *Journal of the Social Sciences*, 7(2):90-95.
- Williamson, D. et al. (2006). Drivers of Environmental Behaviour in Manufacturing SMEs and the Implications for CSR. *Journal of Business Ethics* (2006) 67:317–330.

